CLAIMS

What Is Claimed is:

1. A system defined as Thermoister that comprises:

5   a. A three-dimensional structure that adequately seals and insulates space above an

    entire bed surface up to an adequate height.

    b. A venting device that takes in air inside said three-dimensional structure from one

    end of said venting device and returns the air back into said three-dimensional

    structure on other end of said venting device.

10   c. Air conditioning devices that can modify temperature, moisture level, oxygen

    level, and/or air quality of the air in said venting system.

    d. Sensors that detect physiological conditions of sleeper, internal conditions and

    external conditions of said three-dimensional structure, heat transfer rate between

    sleeper's body and ambient air in said three-dimensional structure, and/or

15   presence of sleeper in bed, and report detected information.

    e. A personal preference control and data storing device that allows a sleeper to set

    and use one's personal preference on temperature, moisture level, oxygen level

    and/or auto turn on and turn off scheme, and report the preference setting

    information.

20   f. A control unit that receives information from said sensors and said personal

    preference control and data storing device; And use combinational factors of the

    information received to control said air conditioning devices to produce desired

    air quality, temperature, moisture level and/or oxygen level of the air inside said

venting device; And/or use the selected auto turn on and turn off scheme to activate and deactivate said Thermoister.

2. A system according to claim 1, wherein said three-dimensional structure comprises:

    a. Lighting device that provides light in said three-dimensional structure.

    b. Any shape, form and/or design of three-dimensional structure as long as it serve the function similar or same as Thermoister.

    c. Support footing that utilizes the footing of existing footing of the bed, the ceiling of the room or its own of any shape, form and/or design for support of said three-dimensional structure.

    d. Walls and ceiling that are made solid material that do not fold or bend, and/or are made of soft materials that fold vertically or horizontally.

    e. Means to fold said three-dimensional structure manually or via automation.

    f. Means to fold said walls and ceiling of said three-dimensional structure manually or via automation.

3. A system according to claim 1, wherein said Air conditioning devices comprises:

    a. A filtration device that filters the air in said venting device and has means to report working condition of said filtration device to said control unit.

    b. A cooling device that cools the air in said venting device and has means to report working condition of said cooling device to said control unit.

    c. A heating device that warms the air in said venting device and has means to report working condition of said heating device to said control unit.

d. A humidifier device that moisturizes the air in said venting device and has means to report working condition of said humidifier device to said control unit.

e. A dehumidifier device that drains moisture out the air in said venting device and has means to report working condition of said dehumidifier device to said control unit.

f. An oxygen supply device that releases oxygen into said venting device and has means to report working condition of said oxygen supply device to said control unit.

g. An air-propelling device to circulate the air in said venting device and has means to report working condition of said air propelling device to said control unit.

h. An air intake and outtake device that draws air from outside of said venting device into said venting devices or draws air from inside of said venting device to outside of said venting device, and has means to report working condition of said air intake and outtake device to said control unit.

4. System according to claim 1, wherein said sensors comprises:

a. A sensor positioned inside said three-dimensional structure to detect temperature and report the detected temperature level information to said control unit.

b. A sensor positioned outside said three-dimensional structure to detect temperature and report the detected temperature level information to said control unit.

c. Sensors positioned on the sleeper's body to detect physiological condition information and report the physiological condition information to said control unit.

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d. A sensor position in said three-dimensional structure to detect moisture level and report detected moisture level information to said control unit.

e. A sensor position outside said three-dimensional structure to detect moisture level and report the moisture level information to said control unit.

f. A sensor position in said three-dimensional structure to detect oxygen level and report the oxygen level information to said control unit.

g. A sensor position outside said three-dimensional structure to detect oxygen level and report the oxygen level information to said control unit.

h. A sensor position in said three-dimensional structure to detect heat transfer rate from body to ambient air in said three-dimensional structure and report the heat transfer rate information to said control unit.

i. A sensor for detecting the presence of sleeper in bed and report the detected information to said control unit.

5. A system according to claim 1, wherein said personal preference control and data storing device comprises:

a. Data table type that comprise following fields:

    i. Array of temperature settings as function of time.

    ii. Array of moisture level settings as function of time.

    iii. Array of oxygen level settings as function of time.

    iv. Array of time intervals correspond to said array of temperature settings, said array of moisture level settings and/or said array of oxygen level settings.

b. Factory default preference list comprises a list of said data tables ordered by age groups.

c. Factory default Auto turn-on and turn-off schemes comprise a list of auto turn on and turn off schemes that allow sleeper to choose for turning on and off Thermoister automatically.

d. Factory default alert options list to alert sleeper when one or more component of Thermoister fails.

e. Personal preference information that is a personal preference table that includes an identification name, one said data table, one said Auto turn on and turn off scheme and one said alert option.

f. Means to store multiple said personal preference tables for one or more sleepers.

g. Means to select a said personal preference table and modify said identification name, the fields in said data table, the fields of said auto turn on and turn off scheme, of the selected personal preference table; and save the modified personal preference information.

h. Means to report the information of selected personal preference table to said control unit.

i. Illuminating device to allow sleeper to operate said personal preference control and data storing device in darkness.

j. A unique identification number or name.

k. Means to communicate to all control units and register its unique identification number to any control unit.

l. Means to attach said personal preference control and data storing device to sleeper.

m. Means to reprogram said personal preference and data storing device to add product updates, new functions and features.

n. Time telling device and an alarm clock.

6. A system according to claim 1, wherein said control unit comprises:

a. Means to receive information from said sensors and personal preference control and data storing device via wire and wirelessly.

b. Means to turn on and turn off Thermoister system manually.

c. Means to turn on and turn off Thermoister system automatically according to selected said auto turn-on and turn-off scheme.

d. Means to turn on and turn off each of the said cooling device, said heating device, said humidify device, said dehumidify device and said oxygen supply device, said air propelling device and said air intake control device independently.

e. Means to self-test all devices of said Thermoister and report irregularities of relevant device of Thermoister.

f. Means to alert sleeper when one or more components of Thermoister fails.

g. A duplicate device of said personal preference control and data storing device so sleeper can utilizes Thermoister without said control and data storing device.

h. Means to communicate to all said personal preference control and data-storing device.

i. Means to register a particular said personal preference control and data storing device

j. Means to use selected said personal preference information and information received from said sensors to control devices of Thermoister.

k. Means to reprogram said control unit to add product updates, new functions and features.

5   l. Means to connect to computer network to allow centralized management and maintenance.